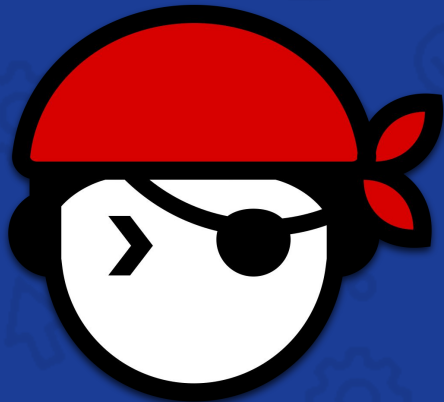
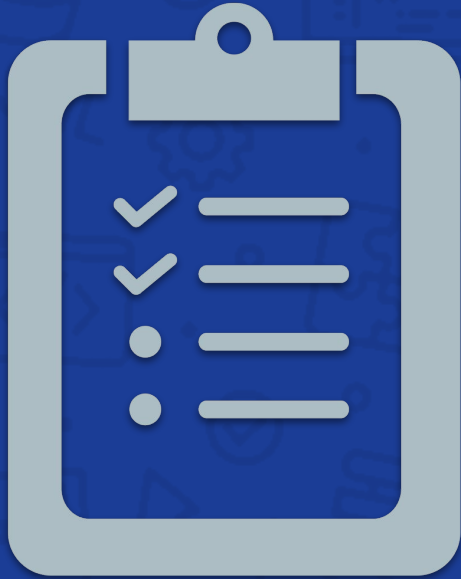


Tampa Devs Meeting

July 13, 2023





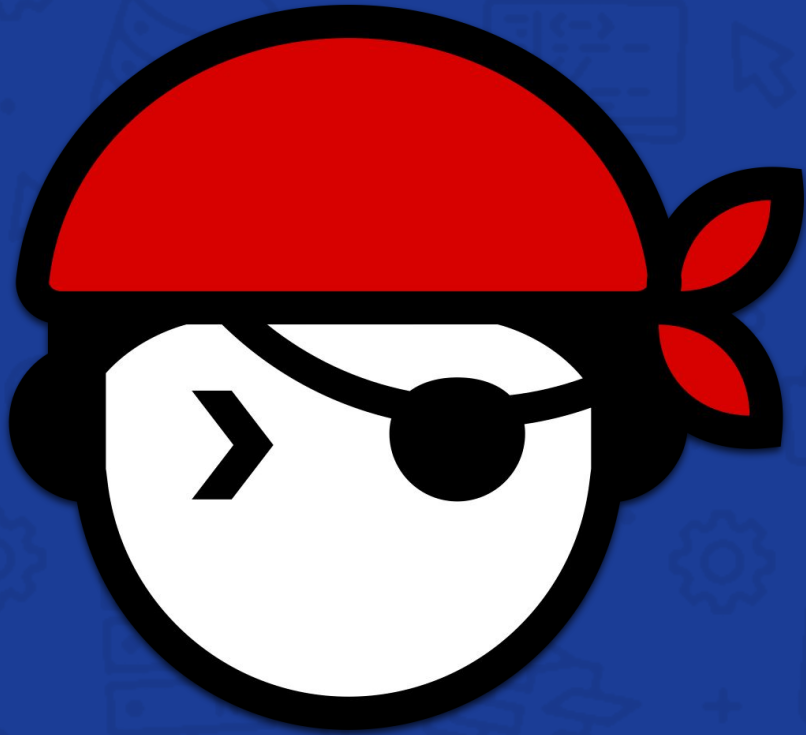
Agenda

- ◉ About Tampa Devs
- ◉ Event & Program Updates
- ◉ Main Talk



“A community of Software Developers, seeking to grow together”.





We're a Registered Nonprofit

Tampa Devs is a registered 501(c)3 nonprofit with 509(a)(2) public charity status.

Full Legal Name: Tampa Devs Inc

EIN: 92-0619339

Address: 6421 N Florida Ave D-1470
Tampa, FL 33604

Our Vision, Our Impact

Our mission is to...

- Continue hosting **bigger, better, and more fun** networking events.
- **Grow and market Tampa Bay** as an industry-leading technology hub.
- Create **career-building experiences** for our members, such as hackathons, tech workshops, and more
- Give **support and mentorship to student organizations** at USF, UT, etc and their related club chapters.
- Provide **logistical and financial support** for other specialized tech meetups such as Data Science group
- **Issue scholarships** to career transitioners and those in pursuit of higher education in technology.



The image shows the exterior of a building at night. The building's facade is composed of numerous vertical, metallic-looking columns that are illuminated from within, creating a vibrant glow of blue, green, and purple light. To the left, there is a logo consisting of four horizontal white bars of varying lengths, stacked vertically. To the right of the logo, the words "Embarc" and "collective" are displayed in large, white, three-dimensional block letters. The letters are mounted on the building's facade and are illuminated from within, making them stand out against the dark background. The overall scene is a modern, artistic architectural display.

Embarc
collective

Upcoming Events

The background is a solid blue color with a repeating pattern of white, semi-transparent icons. These icons include various symbols related to technology and computing, such as gears, arrows, a database cylinder labeled 'SQL', a monitor displaying a bar chart, a document with binary code '10101010', a code editor window with '</>' symbols, a server rack, a cloud labeled 'API', and a document with '<php>' code. The icons are scattered across the entire background.

July 26 – Networking Event

TDevs - Meet & Greet @ Armatureworks [with Java User Group]



Hosted By
Josef S. and 3 others



Organizer tools ▾



Tampa Devs

Public group [?]

★★★★★ (148) [?]



Wednesday, July 26, 2023 at 6:30 PM
to Wednesday, July 26, 2023 at 9:30
PM EDT

[Add to calendar](#)



Armature Works

1910 N Ola Ave · Tampa, FL



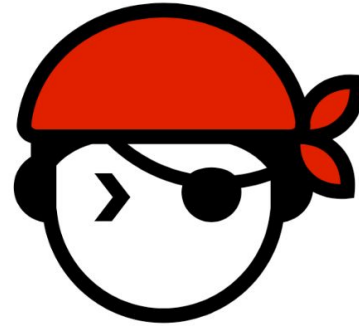
September 21 – DevOps Days Tampa Bay

September 21, 2023
Thursday, 8am-5pm
At Armature Works in Tampa, FL

**Join
us!**

In-person one day event!
Limited space
Tickets on sale now

Tampa Devs



IS A PROUD COMMUNITY
SPONSOR OF

**DEVOPS DAYS
TAMPA BAY**

BayHacks Hackathon





Mentorship Program

Mentorship Program

Registered Users

36 ↑ 2 in last 7d

Active Pairings

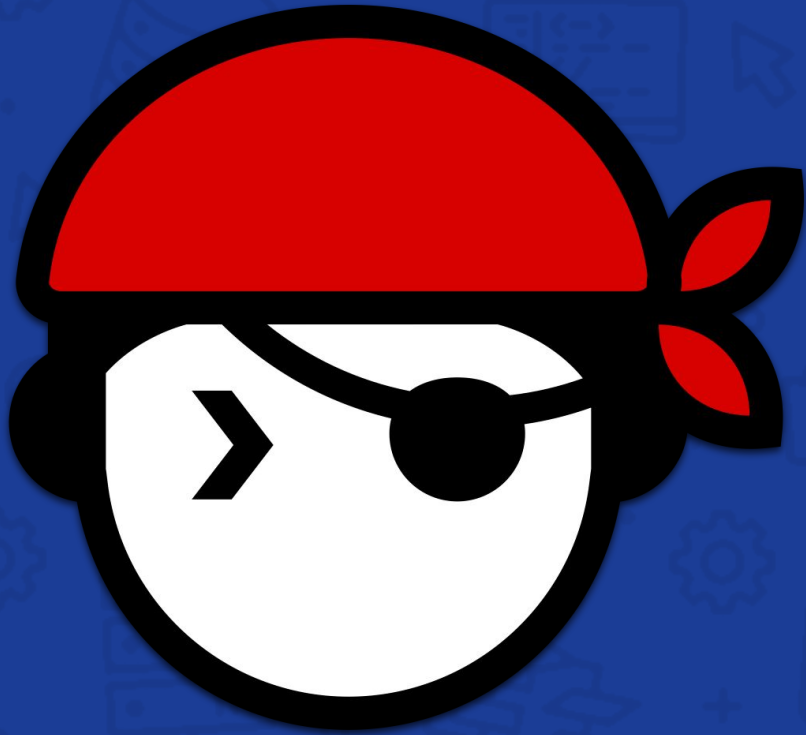
10 ↑ 1 in last 7d

Sessions

1 Scheduled **22** Completed ↑ 3 in last 7d



go.tampa.dev/mentorship

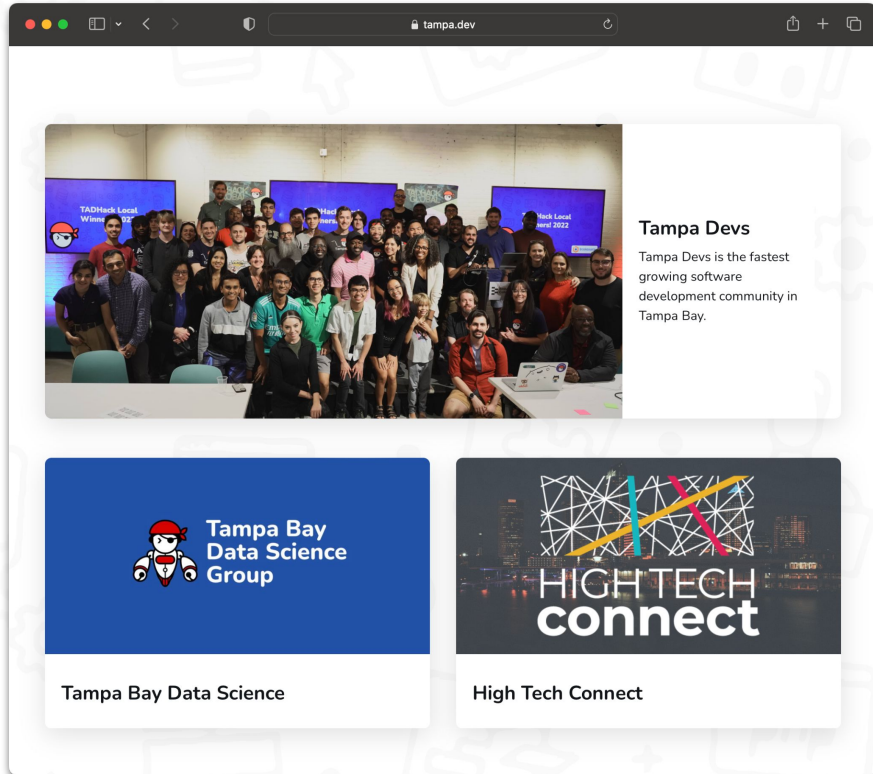


**Tampa Devs
Online**



**Join 882 of Us on
Slack!**

go.tampa.dev/slack



Tampa Tech Community Page

Check out
tampa.dev




Give Support, Get Swag

Check out
store.tampa.dev

open collective

Solutions Product Company Help & Support Search



Tampa Devs

COLLECTIVE community

Creating community events and developer educational content for Tampa, FL

CONTRIBUTE ABOUT BUDGET CONNECT ADMIN ACTIONS

Contribute









Become a financial contributor.

Tampa Devs is all of us

Our contributors 8

Thank you for supporting Tampa Devs.

All contributors Team Financial contributors

 Charlton Trez... Admin	 Vincen Tang Admin	 Nicholas Adams \$250 USD	 Connor Tumbleson \$20 USD	 Trevon Edwards First Mate \$15 USD	 Thomas Powell First Mate \$15 USD	 Tony Ruiz First Mate \$15 USD	 Rishi \$10 USD
---	---	--	---	---	--	--	--

Donate to Tampa Devs

Go to
tampa.dev/donate

github.com/tampadevs



Tampa Devs

A community of software developers in Tampa

 11 followers  United States of America  http

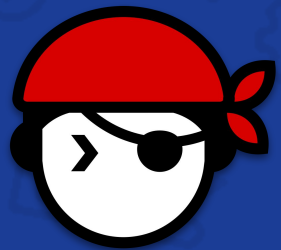
 @tampadevs  hello@tampadevs.com [Verify](#)

 Overview

 Repositories **10**

 Projects





Connect With Us

@tampadevs

#tampadevs

tampadevs.com

go.tampa.dev/slack



The reverse job board for Tampa Bay's Developer Community

Tampa Devs Talent empowers local developers and supports social good.
Stop combing through job listings and kick back while companies reach out to you!

[Get started](#)[Learn more](#)

New awesome local developers on Tampa Devs Talent



New Developer

New profile

✓ Actively looking



Share your knowledge!
speakers@tampadevs.com
go.tampa.dev/speak

Ibis AM

Kevin Brown & Charlton Trezevant

Hello.



Ludum Dare

The original game jam for everyone



Every 10 seconds something happens



September 30th - October 3rd





HURRICANE IAN

Advisory: 2:10 PM

Max Wind: 150 mph

Location: 26.7°N, 82.2°W

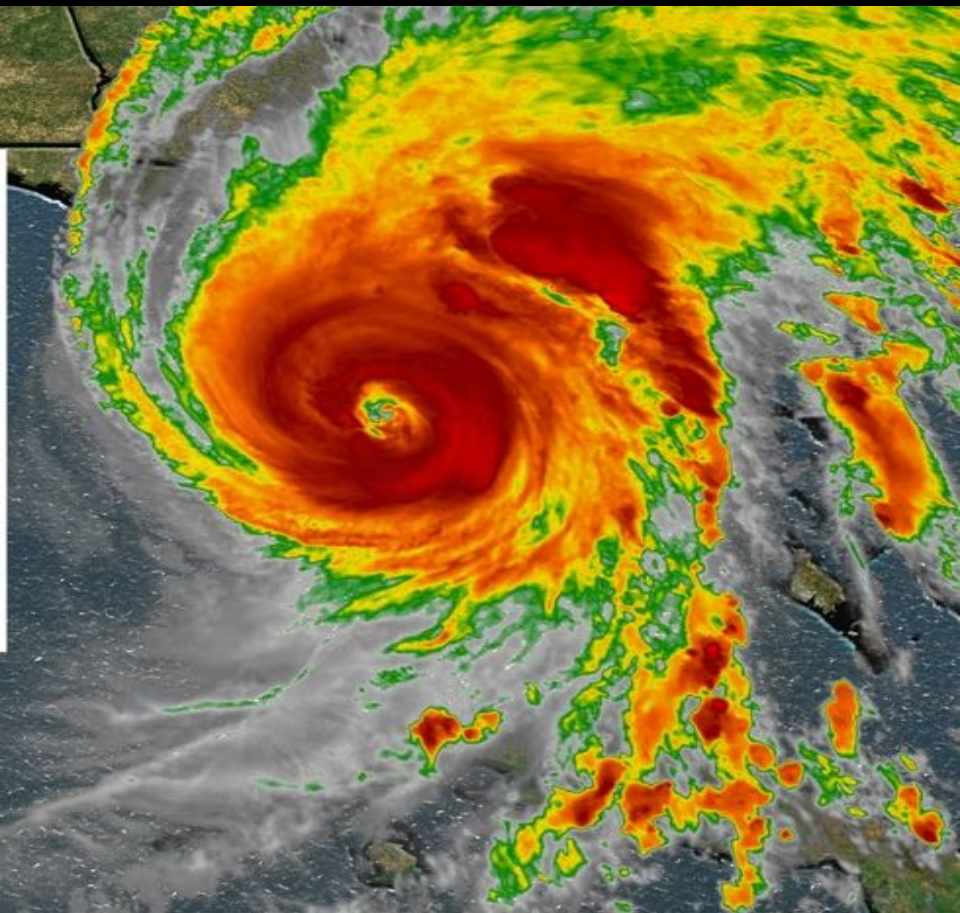
Moving: NNE at 9 mph

**20 MI WNW OF FT MYERS
FLORIDA**

Pressure: 940 mb

A red speech bubble with a white outline, containing the white number '4'.

4

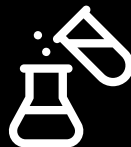


The Agenda.



Godot Tour

Show off the Godot game engine through the creation of simple fish Ai.



Updating

Illustrate a conventional project structure by updating a level in game.



Shipping

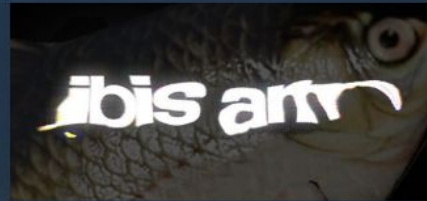
Dissect the build pipeline as we release the update live on Steam.

I will now make *fish*

We are done making *fish*

IBIS AM

Community Hub



All I want you to do is catch fish and search for others who seem hungry. You are only a bird.

ALL REVIEWS: **Positive** (22)

RELEASE DATE: Feb 17, 2023

DEVELOPER: **The Water Museum**

PUBLISHER: **The Water Museum**

Popular user-defined tags for this product:

- Adventure
- Indie
- Casual
- Simulation
- 3D
- +



Following Ignore

View Your Queue

IN LIBRARY IBIS AM is already in your Steam library

Buy this game as a gift for a friend

Buy IBIS AM

SPECIAL PROMOTION! Offer ends in 42:38:38



-50% ~~\$1.99~~ \$0.99

Add to Cart

1 friend wants this game.

Is this game relevant to you?

40 hours played

User reviews: **Positive**

1 friend wants this game:

SCAN ME



COMMUNITY CONTENT ?



American Dove Mitten



what truth could I find at the end of this canyon



American Dove Mitten



Yea thanks XD



American Dove Mitten



apterous



American Dove Mitten



souzouさんのぶどう畑



Ibis



Dr. Permixtus



drop me awp

57 products in account

2 reviews



Recommended

4.4 hrs on record



POSTED: FEBRUARY 20

I ate the fish



J to the Z

24 reviews



Recommended

0.4 hrs on record



POSTED: MARCH 12

I think this is probably what drugs are like.



IrrelevantEllis

34 reviews



Recommended

2.1 hrs on record (2.0 hrs at review time)


















POSTED: MARCH 11

If you like Fortnite then you'll like this

The AM Birds

1 - 15 of 200 entries

Page 1 2 3 ... 14 >>













#1		raw	2,511
#2		Check "Shelltered" on Storepage	1,019
#3		kevin.brown	924
#4		American Dove Mitten	381
#5		Dr. Permixture	272
#6		ぞうさんのぶどう畑	243
#7		Asaklair	224
#8		drop me awp	210
#9		ヌヴ(シ)	205
#10		magneter06	194
#11		Tey	183
#12		zanderwithaz	169
#13		yaBoi	165
#14		Kindvirus	161
#15		TzeentianLoyalty	157

1 - 15 of 200 entries

Page 1 2 3 ... 14 >>

The AM Birds

1 - 15 of 200 entries Page 1 2 3 ... 14 >>

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#13	 yaBoi	165
#14	 Kindvirus	161
#15	 TzeentianLoyalty	157

1 - 15 of 200 entries Page 1 2 3 ... 14 >>

I will now **update a level**

Now, Let's **Ship It!**



Let's connect!



@chtzvt



blog.ctis.me

Charlton Trezevant

Application Security Consultant

Xpirit USA

ctrezevant@xpirit.com



Agenda



All About GitHub Actions



CI & CD for Game Developers



Real-World Deep Dive

End Goals

Great Experiences for Developers and Players

1.

Reach players with a uniformly great game experience on as many platforms as possible.

2.

Consistent and fast releases of updates on all supported platforms simultaneously.

3.

Make the release process as simple and automatic as possible. Let developers focus on bugfixes and shipping new content.

All About Actions



Pipelines: GitHub Actions



Generic workflow engine: automate anything



Workflows = text-based file in your repo (yaml)



Actions = building blocks in your workflow



Jobs = collection of steps



Step = shell script or calling an action



Yaml workflow definitions

```
name: learn-github-actions
on: [push]
jobs:
  check-bats-version:
    runs-on: ubuntu-latest
    steps:
      - uses: actions/checkout@v2
      - uses: actions/setup-node@v2
        with:
          node-version: '14'
      - run: npm install -g bats
      - run: bats -v
```

EVENT
on: [push]



Job: check-bats-version

Step 1

Checkout repository
- uses: actions/checkout@v2

Step 2

Install node
- uses: actions/setup-node@v2

Step 3

Install bats
- run: npm install -g bats

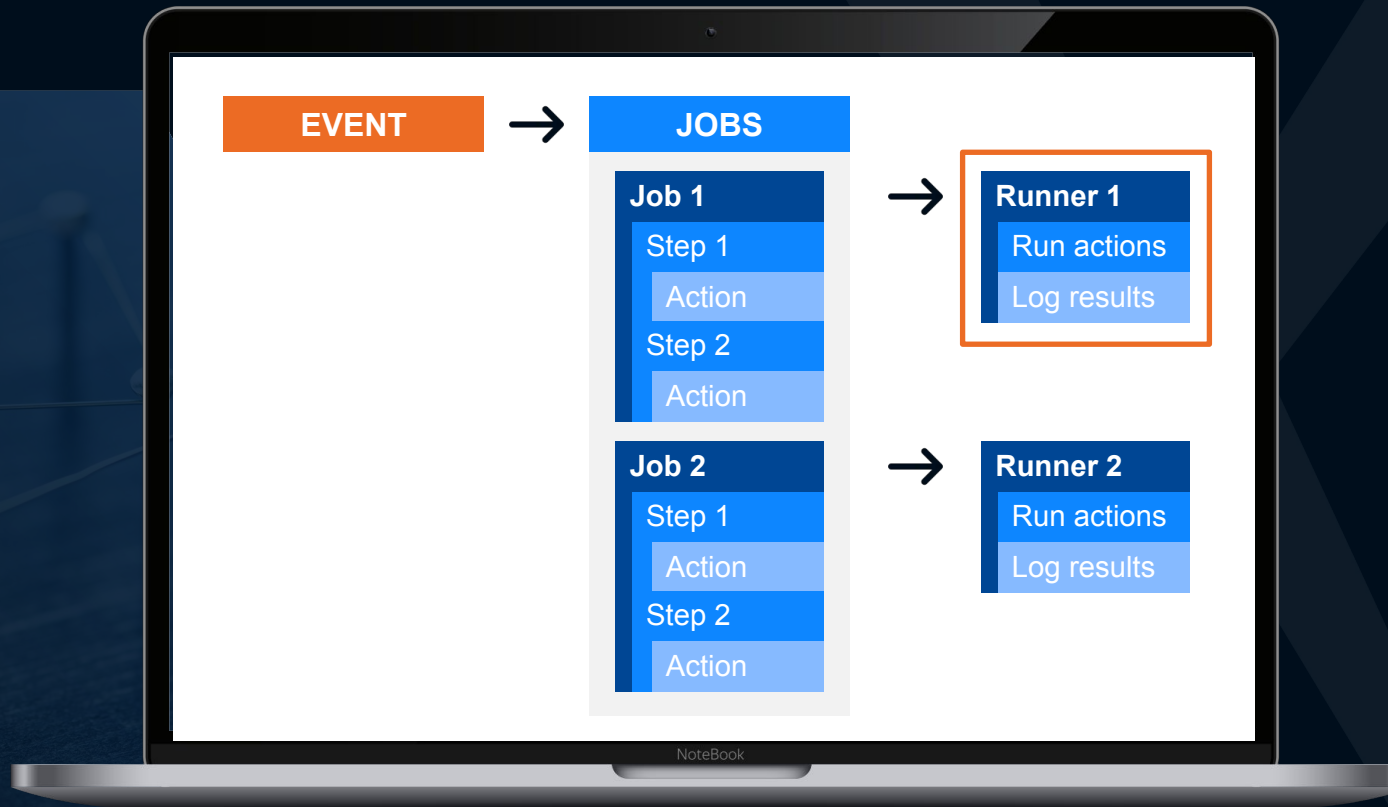
Step 4

Run bats
- run: bats -v

NoteBook



Anatomy of a workflow



Pipelines: GitHub Actions



37+
triggers:



Manual (workflow_dispatch)



On: push



On: pull_request



On: issue



On: page_created



All (repository_dispatch)



On: issue_comment



On: release

Runners

- **GitHub Hosted**

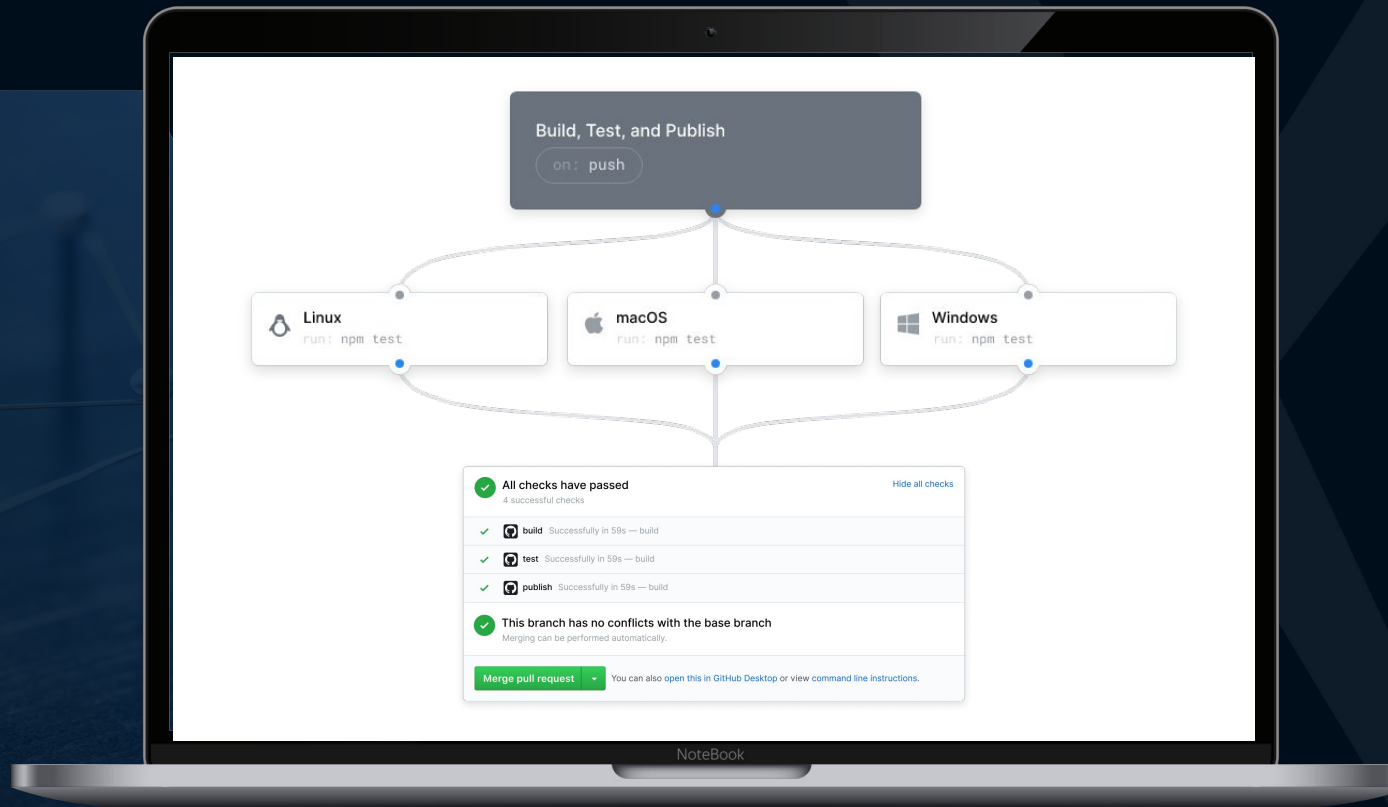
 - **Hosted on Azure (Standard_DS2_v2 virtual machines)**

 - **GitHub managed, running in your VNET is on its way**
- **Mac is hosted on GitHub's own macOS Cloud.**
 - The Linux and macOS virtual machines both run using passwordless sudo

Note: If you use an IP address allow list for your GitHub organization or enterprise account, you cannot use GitHub-hosted runners and must instead use self-hosted runners. For more information, see "[About self-hosted runners](#)."



Hosted environments



Job runner logs

The screenshot displays the GitHub Actions interface for a job named 'check-bats-version'. On the left, a sidebar shows a 'Summary' tab and a list of jobs, with 'check-bats-version' selected and marked as successful. The main area shows a detailed log of the job's steps, including their status, names, and durations. A search bar and a settings icon are located at the top right of the log area.

check-bats-version succeeded 8 minutes ago in 9s

Search logs

- > ✓ Set up job 3s
- > ✓ Run actions/checkout@v2 1s
- > ✓ Run actions/setup-node@v1 2s
- > ✓ Run npm install -g bats 2s
- ▼ ✓ Run bats -v 0s
 - 1 ▶ Run bats -v
 - 4 Bats 1.2.1
- > ✓ Post Run actions/checkout@v2 1s
- > ✓ Complete job 0s

Demo: [github-actions-requests](#)





Pre-installed software

- Look at the install logs of “Set up job” step

```
Summary
Jobs
Lint JSON & MD files
Set up job
1 Current runner version: '2.276.1'
2 Operating System
6 Virtual Environment
7 Environment: ubuntu-20.04
8 Version: 20210131.1
9 Included Software: https://github.com/actions/virtual-environments/blob/ubuntu20/20210131.1/images/linux/Ubuntu2004-README.md
10 Prepare workflow directory
11 Prepare all required actions
12 Getting action download info
13 Download action repository 'actions/checkout@v2'
14 Download action repository 'github/super-linter@v3'
```

- GitHub-hosted runners are updated weekly
- If there is a tool that you'd like to request, please open an issue at [actions/virtual-environments](https://github.com/actions/virtual-environments)

NoteBook

Runners - specs

Standard:

> Hardware specification for Windows and Linux virtual machines:

- > 2-core CPU (x86_64)
- > 7 GB of RAM
- > 14 GB of SSD space

> Hardware specification for macOS virtual machines:

- > 3-core CPU (x86_64)
- > 14 GB of RAM
- > 14 GB of SSD space

Larger runners (Beta)

Size (vcpu)	Memory (GB)	Storage (SSD)
4 cores	16 RAM	150 GB
8 cores	32 RAM	300 GB
16 cores	64 RAM	600 GB
32 cores	128 RAM	1200 GB
64 cores	256 RAM	2040 GB

Feature: GPU enabled runners

<https://github.com/github/roadmap/issues/505>



Pricing

Private repositories

INCLUDED MINUTES



Free

2,000
minutes per month

Pro

3,000
minutes per month

Team

3,000
minutes per month

Enterprise

50,000
minutes per month

ADDITIONAL HOSTED RUNNER MINUTES



Linux

2 cores, 7GB

\$0.008
per minute

Windows

2 cores, 7GB

\$0.016
per minute

macOS

2 cores, 7GB

\$0.08
per minute

Self-hosted

Free

Included, hosted runner minutes are consumed at different rates for each operating system. GitHub Actions is not available for private repos in legacy per-repository plans. [Learn more](#)

Game Development



Game Development is Unique

> Engine-Centric Development Workflow

> Large Assets

> Complex Toolchain

> Long Build Times

> Native-Centric

- Large builds shipped to customers
- Diverse consumer hardware targets
- Many ways things can break/bug out
- Console builds are another beast entirely
- Storefronts are hard!



Engines are Special

- > Integrated IDEs where code is not a first-class citizen

- > Small changes often produce huge diffs

Our Challenges



Small Team, Limited Resources



Manage Complexity and Cost



Manage Releases on Tons of Platforms



Consistency & Reusability



Ensure Quality, Great Player Experience



Security

Scaling is Hard



$(\# \text{ builds}) * (\# \text{ stores}) +$
 $(\# \text{ console releases})$

Other Considerations

- > "Anyone Can Deploy"
- > Each store/target has a bespoke toolchain & release process
- > Dependency management
- > Isolate code issues from build issues
- > Feature Flags & Embedded Build Information
 - Enabling/disabling Steam SDK
 - Performance optimizations
 - Testing features (noclip, etc)

End Goals

Great Experiences for Developers and Players

1.

Reach players with a uniformly great game experience on as many platforms as possible.

2.

Consistent and fast releases of updates on all supported platforms simultaneously.

3.

Make the release process as simple and automatic as possible. Let developers focus on bugfixes and shipping new content.

Success

Oh for sure, it literally feels like I'm cheating only having to click like 2 buttons and having it do everything automatically. Can't thank you enough than I have already but I will continue thanking you regardless

If your job doesn't think these actions are fantastic Imma need a word with them



Let's Dive In



Cost & Efficiency Tips



Avoid repeat work.
Share and use
caches wherever
possible



Use Linux runners.
Optimize build times,
concurrency, and
artifact retention



Avoid surprises.
Monitor and limit
spending in the
billing dashboard

GitHub - Community

- **XPRT magazine articles**
- **Ask the Expert sessions**
- **Rob Bos: Conference talks at GitHub InFocus 2021, GitHub Universe 2021, NDC Security (2022), Techorama BE (2022), and others**
 - How to use GitHub Actions with Security in mind
 - Protect your code with GitHub security features (Code signing + Advanced Security)
- **Rob Bos: LinkedIn Learning Course on GitHub Advanced Security**
- **Book: Accelerate DevOps with GitHub (Michael)**

<https://xpir.it/github>

- **Blog posts galore!**
 - Best practices for Actions
 - Internal Actions Marketplace
 - Self-hosted runners on Kubernetes
 - GitHub tokens and best practices
- **GitHub workshop: Code to Cloud**
- **GitHub Workshop: VisugXL BE**
- **Pluralsight course**
- **GitHub Community Stuttgart**

Thank You!

